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Linda Casser
Pacific University

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The First Optometry Program to Require Laptop Computers of its Entering Students

The First Optometry Program to Require Laptop Computers of its Entering Students

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Pacific University College of Optometry

By **Linda Casser**, OD, FAAO <casserl@pacificu.edu>

Associate Dean for Academic Programs, Pacific University

The College of Optometry is one of six graduate level programs housed on the Pacific University campus. <http://www.pacificu.edu/academics/> The Doctor of Optometry (O.D.) degree program is a four-year graduate level course of study. Doctors of Optometry are primary health care professionals who examine, diagnose, treat, and manage diseases and disorders of the visual system, the eye, and associated structures as well as diagnose related systemic conditions.

- <http://www.aoanet.org/>
- <http://www.opted.org>
- <http://www.aaopt.org/>

The Renovation of Jefferson Hall

The 1998-99 renovation of the campus home of the College of Optometry, Jefferson Hall, was completed thanks to the generous support of alumni and friends, foundations, and corporate entities. In recent years, the use of technology has expanded exponentially in the profession of optometry as it has in other health care professions and in the greater world around us; the completion of the Jefferson Hall renovation project was a physical manifestation of this transformation. Three new 94-seat classrooms serve as the college's didactic heart and each is technologically "smart," including full computerization and Internet access via a touchscreen-controlled podium. Intranet and Internet connectivity is provided to each student via a dataport and power plug installed at each classroom seat.

Student Use of Laptop Computers: Recommendation -> Requirement

Once construction of the new classrooms was completed, the faculty developed a written recommendation for first year students entering in Fall 1999 (Class of 2003) and Fall 2000 (Class of 2004) that they acquire laptop computers. Student surveys indicated that 40-50 percent of students in each of those entering classes acquired laptop computers voluntarily.

Consonant with completion of the new classrooms in Jefferson Hall and since January 1999, faculty initiatives have been dedicated to integrating active educational techniques more fully into the classroom setting. These efforts have been complemented by web-based initiatives related to the classroom and clinical educational programs. Similarly, the college's faculty decided it was becoming increasingly important to integrate more closely student computer usage with their own instructional usage and efforts. Based on that philosophical premise, a clear next step was more complete integration of the students' academic endeavors with the college's intranet and the university's Internet connectivity to the global resources of the world.

At its May 2000, monthly meeting, the faculty of the College of Optometry voted to require laptop computers of its entering students, beginning with the Class of 2005. Thus, the Pacific University College of Optometry is the first optometry program in North America to require laptop computers of its entering first year students. What follows is a brief chronicle of the process, implementation, and impact to date of this important new aspect of the college's program.

Implementation of the Laptop Computer Requirement

Formed three years prior, the College's Technology Team composed of student, faculty, staff, and administrative members was charged with developing a Laptop Implementation Plan, which was adopted by the faculty in November, 2000.^{1,2} The Technology Team, Admissions, Student Services, and Financial Aid worked together to develop informational materials for student mailing to advise them of the new laptop requirement. Involvement of Financial Aid was important since requiring the laptops now allowed for its inclusion in the students' financial aid packages. Minimum laptop specifications were developed and distributed by the campus' University Information Services (UIS), since the students were expected to acquire the hardware independently, although informational assistance was readily available.

Once the 96 members of the Class of 2005 arrived on campus and prior to the scheduled Technology Orientation, the students were asked to bring in their laptops. In a designated room set aside solely for this purpose and while the students were engaged in other orientation activities, a team of UIS personnel checked each laptop to ensure that it was configured correctly and had full intranet and Internet connectivity. The latter included a test of connectivity to WebCT, the web-based instructional software that has been adopted by the university. An introduction to these functions was then provided during the Technology Orientation prior to the start of Fall Semester classes. Student members of the Technology Team reminded their colleagues of in-class etiquette issues related to the use of laptop computers.

Utilization of the Laptop Computers

In preparation for the 2001 Fall Semester, faculty members continued efforts to adapt course materials and teaching strategies to technology-based approaches. In many instances, student technology assistants joined the faculty with their efforts. Image scanning, creative PowerPoint presentations, WebCT course development, and posting materials to the college's local server are just a few of the approaches utilized. Students access faculty presentations from the local server before, during, and after class. This allows for study of material before class so that in-class time may be used for learning strategies other than straight lecture, the entry of their own notes into the lecture presentation, plus downloading for future review. The latter is particularly helpful for studying and reviewing ophthalmic images, schematics, etc.

The use of technology includes both interactive and passive elements. The first year faculty convened as a group over the summer to explore and develop ways of using technology afforded through the laptops for active in-class activities. Efforts have also been extended to coursework beyond the first year.

Despite the many efforts underway, students have been reminded, as described in the Laptop Implementation Plan, that individual class and faculty member incorporation of technology currently varies and is actively evolving. In other words, the college's requirement of laptops is not necessarily a guarantee for in-class use but rather a commitment to its necessity in the preparation of its graduates. Use of the laptop will be directly related to individual course content. The laptop allows for entries that are clearer than handwriting, built-in searchability of notes, portability, etc.

Implications for Teaching and Learning

As part of a current grant project exploring diversity and learning styles, student focus groups were recently conducted.³ One question posed to the groups pertained to what teaching and learning innovations the students would like to see implemented. With regard to the use of in-class technology, two themes emerged from the focus group responses.

Students would appreciate fuller use of technology with the capability of:

- Posing instant questions to the instructors during class time. The anonymity of this approach compared to the student raising his/her hand in front of a large group of peers provided a level of comfort for many students.
- Use of technology for in-class assessment techniques, assessing for comprehension of course material. This would prove to be the technology-based equivalent of in-class assessment techniques such as the One Minute Survey described by Angelo and Cross.⁴

Another issue worth mentioning is the student approach to the printing of course materials. While electronic adaptation and presentation of course materials has positively impacted printing expenses, not expectedly, students typically prefer to study for examinations from printed materials rather than a computer screen. As eye and vision care specialists who are well

acquainted with conditions such as Computer Vision Syndrome, this is something that we can hardly take issue with! Thus, the college remains committed to making printed materials available to students as per the arrangements put in place by course instructors. Additionally, students who have entered their own course notes into electronically based faculty presentations frequently wish to print the notes. Thus, appropriate planning for utilization of the printers in the college's computer lab has been necessary.

Special Web-Based Initiatives

Since the laptop requirement is new for the college's entering class, the emphasis in this article has been on the use of laptop computers in the first year didactic program. However, a number of technology-based initiatives are currently underway within the college, two of which are briefly described below:

Special Web-Based Initiative: Clinical Rounds

Our students begin their clinical activity in the first year; this patient care experience increases in complexity and intensity throughout the program. In the college's patient care facilities, the utilization of computers currently includes data collection, retrieval, and entry; web-based student patient logs; and, business practices. Additional anticipated use includes accessing on-line resources in the examination rooms and patient management, especially following installation of the new Compulink software in December 2001.

The fourth and final year of the program is spent in full-time patient care activity; two of the three semesters are spent in off-campus clinical preceptorships in a variety of health care settings. Beginning with Academic Year 2002-2003, the fourth-year students will complete four patient care sessions: one campus-based rotation and three preceptorship rotations.

The on-campus Clinic Rotation includes a course called Clinical Rounds. Carole Timpone, OD, director of the Portland Vision Center and course instructor for Clinical Rounds, serves as the principal investigator for a grant from Vision Service Plan Foundation to develop a web-based offering of the course.⁵ This is a collaborative effort involving co-investigators from the Michigan College of Optometry at Ferris State University and the State College of Optometry at the State University of New York. This fall, each institution successfully launched a pilot of this interactive web-based case conference course. The ultimate goal of a web-based offering of Clinical Rounds is to engage more fully the fourth-year students in college-based educational activities during their off-campus preceptorships, thus increasing their connectivity to the campus.

Special Web-Based Initiative: Business Elective Course

An exciting element was added to the college's curriculum with the arrival of Academic Year 2001-2002: the offering of a new elective course titled Business Principles for Optometric Practice. Faculty members from the business and economics department of the College of Arts and Sciences serve as the course instructors (listed alphabetically):

- Michelle Baron, Assistant Professor of Business Administration
- Jamie Haag, Assistant Professor of Business and Economics
- Chuck O'Connor, Professor of Accounting and Finance
- John Suroviak, Associate Professor of Accounting and Finance

Students in the third year of the program are required to select four credit hours of elective courses. This new elective course is being offered in the Fall Semester. The goal is to provide interested students, particularly those without a business background, with foundational knowledge in important areas of business before their enrollment in the required course Optometric Economics and Practice, offered in the Spring Semester of the third year. The ultimate goal is to more fully help our graduates succeed in their practice settings.

The course is composed of seven two-hour topic specific seminars developed by the course instructors. All seminar materials are posted on the Web for review and study prior to the scheduled seminar. The students submit completed assignments via email, and graded assignments with faculty comments are returned to students via email. During in-class time, the course instructors facilitate the seminars using interactive learning techniques such as group activities, computer-based problems, role-playing, and discussion.

Summary

The use of technology is an integral and vitally important aspect of the college's learning community; its use parallels, and is consonant with, the use of technology externally. As this premise applies to teaching and learning, the college views student utilization of technology to be as basic and as important as pencil and paper. This approach prepares students for life-long learning, including the use of technology as an "everyday" tool. The goal of the college, then, is to create, actively develop, and maintain an educational culture in which the use of technology is the norm for both in-class and out-of-class use.

In becoming the first optometry program in North America to require laptop computers of its incoming students, the Pacific University College of Optometry continues its leadership role in the active integration of technology into the teaching and learning environment. The college has not undertaken this direction lightly. It recognizes the financial commitment on the part of students, the commitment of effort and time on the part of faculty, as well as the unavoidable obsolescence of acquired hardware. Yet, its commitment to this higher level of technology integration is strong. In reflecting on its achievements to date in this important academic area, the college looks forward to the teaching and learning innovations that lie ahead.

NOTES:

1. College of Optometry Technology Team Academic Year 2001-2002: Denise Goodwin, Faculty Representative; David Moon, Class of 2005; Mark Fast, Class of 2004; David Graf, Class of 2003; Walker Hecht, UIS and Optometry Computer Systems Support Staff Member; Linda Casser, Chair.

2. Implementation Plan for Required Laptop Computers for Incoming Students: Beginning with the Entering Class of 2005. Written by the College of Optometry Technology Team: Linda Casser, Chair; John Carroll; Ken Eakland; Graham Erickson; Mark Fast, Class of 2004; David Graf, Class of 2003; Nada Lingel, Consultant; Barb Olsen; Christopher Salfai, Class of 2002; Jenny Smythe; Lee Colaw, Special Advisor to the Team. Adopted by the College of Optometry Faculty November 16, 2000.

3. Integrating Multiculturalism into the Implementation of Innovative Teaching Strategies and Curriculum Review. A CIBA Vision/ASCO (Association of Schools and Colleges of Optometry) Total Quality Education grant to the Pacific University College of Optometry. Linda Casser, OD, Principal Investigator.

4. Angelo, Thomas A. and Cross, K. Patricia. Classroom Assessment Techniques: A Handbook for College Teachers, 2nd ed. San Francisco: Jossey-Bass Publishers, 1993.

5. A Pilot Project in WebCT to Test the Feasibility of a Center for Teaching and Learning. A Vision Service Plan Foundation grant to the Pacific University College of Optometry, the Michigan College of Optometry at Ferris State University, and the State College of Optometry of the State University of New York. Carole Timpone, OD, Principal Investigator.

Pacific University College of Optometry home page:<http://www.pacificu.edu/optometry/>

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8 THOUGHTS ON “THE FIRST OPTOMETRY PROGRAM TO REQUIRE LAPTOP COMPUTERS OF ITS ENTERING STUDENTS”

gwiazdy

on **January 30, 2014 at 7:09 AM** said:

Hey very cool net site!! Guy .. Beautiful .. Superb .. I am going to bookmark your blog and eat the feeds also...I am satisfied to discover so quite a few fascinating information right here from the post, we'd like develop additional approaches in this regard, thanks for sharing.

plotka

on **February 1, 2014 at 1:48 AM** said:

Hey, thank you for the feedback! I would suggest that saying "God died on the cross" isn't particular more than enough theological terminology to accurately describe what happened there. Vague terminology like that may lead to deviant thinking about the trinity. Of course I don't feel it's the cardinal sin to use vague phrases, but I consider it can reveal our confusion when it comes to the trinity.

nasze miasto

on **February 1, 2014 at 3:40 AM** said:

Good work...

nigeria

on **February 3, 2014 at 1:32 AM** said:

I have mastered some essential issues through your site post. 1 other subject I want to talk about is that there are many games out there on the marketplace formulated specifically for toddler age children. They include pattern acceptance, colors, household pets, and shapes. These generally focus on familiarization as an option to memorization. This keeps smaller kids engaged without the need of sensing like they are studying. Thanks

plotki

on **February 3, 2014 at 1:54 AM** said:

Hey, thank you for ones feedback! I would suggest that saying "God died on the cross" just isn't specific enough theological terminology to accurately describe what happened there. Vague terminology like that will result in deviant considering on the trinity. Of course I do not think it is the cardinal sin to use vague phrases, but I feel it can reveal our confusion with regards to the trinity.

africa

on **February 4, 2014 at 10:16 AM** said:

for that finest price within the industry super genuine all

nigeria entertainment news

on **February 4, 2014 at 10:27 AM** said:

I did finally watch A Mighty Wind! Great stuff!

nigeria entertainment news

on **February 4, 2014 at 10:35 AM** said:

unhappy for your vast analysis, but I'm very loving the post, and hope this, and also the excellent review some other individuals have written, will help you determine if it's the right choice for you.